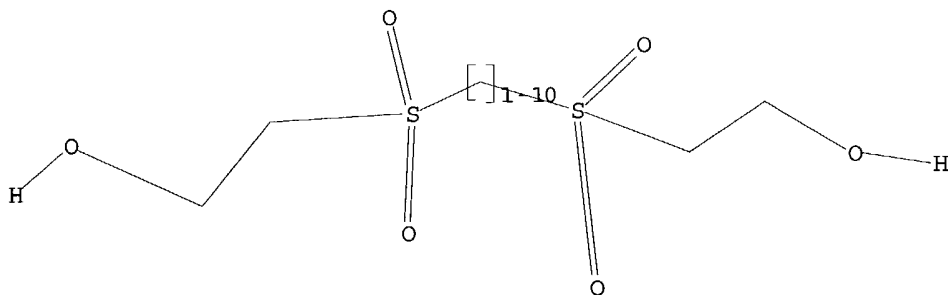


L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=>

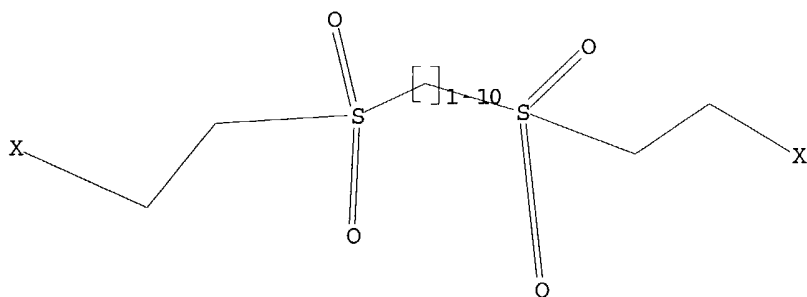
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L2 STRUCTURE UPLOADED

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L2 HAS NO ANSWERS

L2 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 12

SAMPLE SEARCH INITIATED 14:08:19 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 42 TO ITERATE

100.0% PROCESSED 42 ITERATIONS

10 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

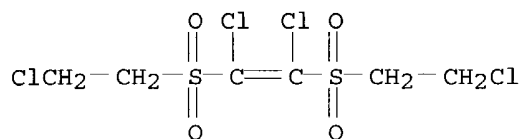
PROJECTED ITERATIONS: 452 TO 1228

PROJECTED ANSWERS: 11 TO 389

L3 10 SEA SSS SAM L2

=> d scan

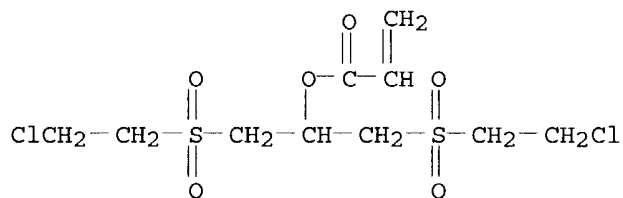
L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Ethene, 1,2-dichloro-1,2-bis[(2-chloroethyl)sulfonyl]- (9CI)
 MF C6 H8 Cl4 O4 S2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

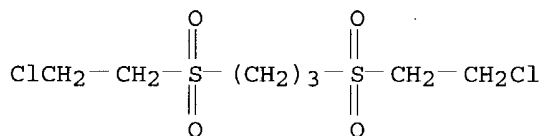
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 2-Propenoic acid, 2-[(2-chloroethyl)sulfonyl]-1-[[2-chloroethyl)sulfonyl)methyl]ethyl ester (9CI)
 MF C10 H16 Cl2 O6 S2
 CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

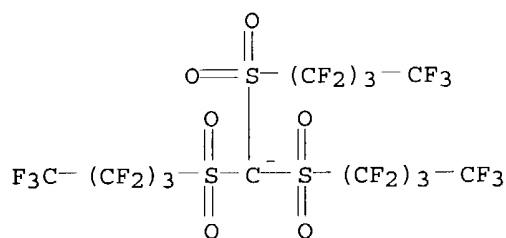
L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Propane, 1,3-bis[(2-chloroethyl)sulfonyl]- (9CI)
 MF C7 H14 Cl2 O4 S2



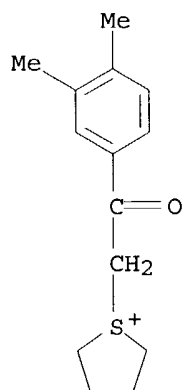
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Thiophenium, 1-[2-(3,4-dimethylphenyl)-2-oxoethyl]tetrahydro-, salt with 1,1',1''-[methylidynetris(sulfonyl)]tris[1,1,2,2,3,3,4,4,4-nonafluorobutane] (1:1) (9CI)
 MF C14 H19 O S . C13 F27 O6 S3

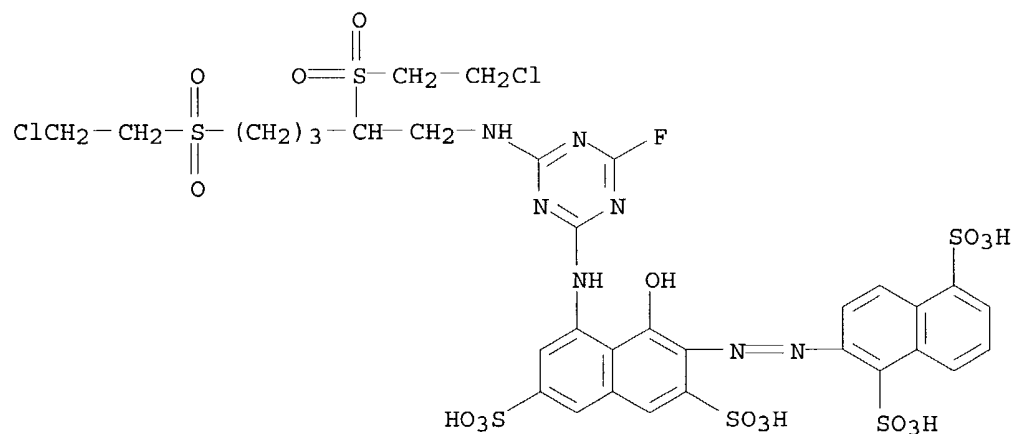
CM 1



CM 2



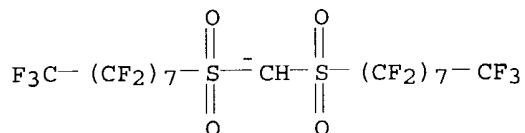
L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1,5-Naphthalenedisulfonic acid, 2-[[8-[[4-[[2,5-bis[(2-chloroethyl)sulfonyl]pentyl]amino]-6-fluoro-1,3,5-triazin-2-yl]amino]-1-hydroxy-3,6-disulfo-2-naphthalenyl]azo] - (9CI)
 MF C32 H32 Cl2 F N7 O17 S6



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

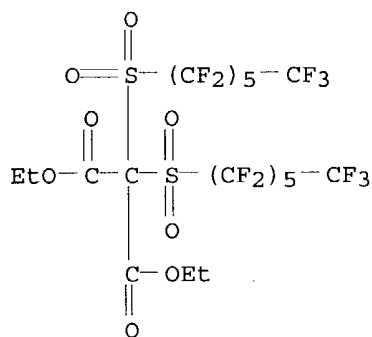
L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN Octane, 1,1'-[methylenebis(sulfonyl)]bis[1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-
heptafluoro-, ion(1-), potassium (9CI)
MF C17 H F34 O4 S2 . K



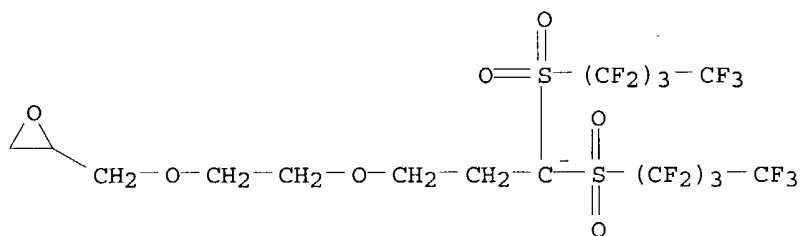
● K⁺

L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Propanedioic acid, bis[(tridecafluorohexyl)sulfonyl]-, diethyl ester (9CI)
MF C19 H10 F26 O8 S2



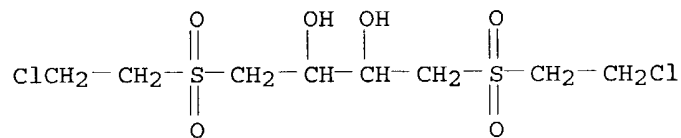
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Oxirane, [[2-[3,3-bis[(nonafluorobutyl)sulfonyl]propoxy]ethoxy]methyl]-,
ion(1-), lithium (9CI)
MF C16 H13 F18 O7 S2 . Li
CI COM



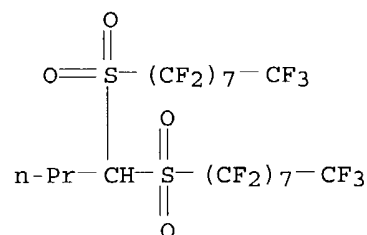
● Li⁺

L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 2,3-Butanediol, 1,4-bis[(2-chloroethyl)sulfonyl]- (9CI)
 MF C8 H16 Cl2 O6 S2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 10 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Butane, 1,1-bis[(heptadecafluorooctyl)sulfonyl]- (8CI)
 MF C20 H8 F34 O4 S2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=> s l2 full
 FULL SEARCH INITIATED 14:08:46 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 756 TO ITERATE

100.0% PROCESSED 756 ITERATIONS 199 ANSWERS
 SEARCH TIME: 00.00.01

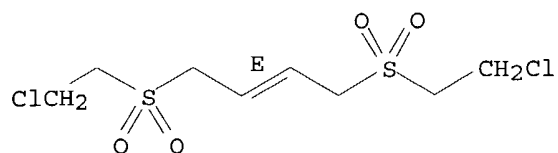
L4 199 SEA SSS FUL L2

=> s l4 and 1/nc
 61928686 1/NC
 L5 127 L4 AND 1/NC

=> d scan

L5 127 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 2-Butene, 1,4-bis[(2-chloroethyl)sulfonyl]-, (E)- (9CI)
 MF C8 H14 Cl2 O4 S2

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> s 15 not butene?

125212 BUTENE?

L6 124 L5 NOT BUTENE?

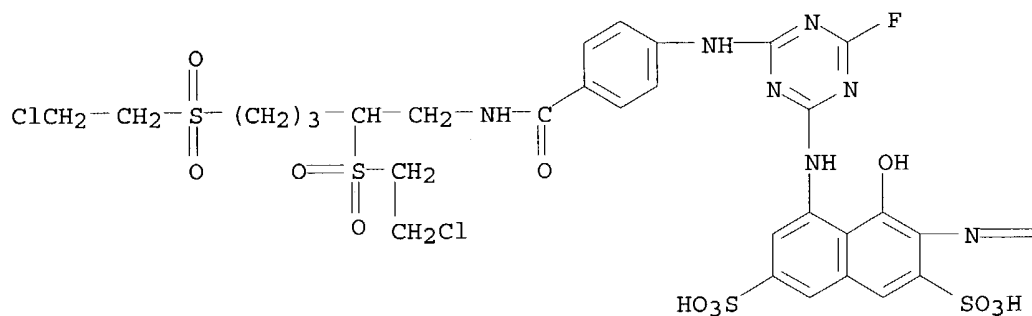
=> d scan

L6 124 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

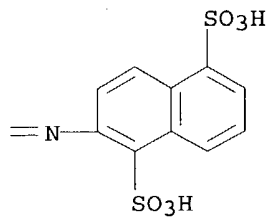
IN 1,5-Naphthalenedisulfonic acid, 2-[[8-[[4-[[4-[[[2,5-bis[(2-chloroethyl)sulfonyl]pentyl]amino]carbonyl]phenyl]amino]-6-fluoro-1,3,5-triazin-2-yl]amino]-1-hydroxy-3,6-disulfo-2-naphthalenyl]azo]- (9CI)

MF C39 H37 Cl2 F N8 O18 S6

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	165.96	166.17

FILE 'CAPLUS' ENTERED AT 14:09:34 ON 06 JUN 2004
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FILE COVERS 1907 - 6 Jun 2004 VOL 140 ISS 24
 FILE LAST UPDATED: 4 Jun 2004 (20040604/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L7      114 L6

=> s l6/prep
      114 L6
      3155998 PREP/RL
L8      56 L6/PREP
      (L6 (L) PREP/RL)

=> s l8 and amide
      114089 AMIDE
      72637 AMIDES
      155888 AMIDE
      (AMIDE OR AMIDES)
L9      2 L8 AND AMIDE
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=> d ibib abs hitstr 1-2

```
L9  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:      2001:106358  CAPLUS
DOCUMENT NUMBER:       134:147171
TITLE:                  Lewis acid catalyst composition for liquid phase
                        reaction
INVENTOR(S):           Nishikido, Joji; Nakajima, Hitoshi
PATENT ASSIGNEE(S):     Asahi Chemical Industry Co., Ltd., Japan; Noguchi
                        Research Institute
SOURCE:                 Jpn. Kokai Tokkyo Koho, 8 pp.
                        CODEN: JKXXAF
DOCUMENT TYPE:          Patent
LANGUAGE:               Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001039896	A2	20010213	JP 2000-156536	20000526

US 6436866 B1 20020820 US 2000-578862 20000526
 PRIORITY APPLN. INFO.: JP 1999-146670 A 19990526
 JP 1999-306436 A 19991028

OTHER SOURCE(S): CASREACT 134:147171; MARPAT 134:147171

AB The title catalyst composition comprises (1) a mixed reaction medium composition

containing three components selected from (A) fluorine-substituted aromatic hydrocarbons, (B) fluorine-substituted aliphatic hydrocarbons, and (C) at least solvent compound selected from aliphatic and aromatic hydrocarbons and halogenated aliphatic or aromatic hydrocarbons excluding fluorinated aliphatic

or aromatic hydrocarbons, in a volume sum ratio for component A/(component B+C) of ≥ 1.5 and (2) at least one Lewis acid selected from $(Rf_1SO_3)n_1M_1$, $[(Rf_2SO_2)2N]n_2M_2$, and $[(Rf_3SO_2)3C]n_3M_3$ (wherein Rf_1 , Rf_2 , $Rf_3 = C \geq 2$ perfluoroalkyl; M_1 , M_2 , M_3 = rare earth metal; n_1 , n_2 , n_3 = an integer equal to the valency of M_1 , M_2 , and M_3). The reaction medium described in (1) is used in a reaction using at least one Lewis acid catalyst described in (A), (B), and (C). This Lewis acid catalyst composition improves reaction efficiency and makes it easy to recover and recycle the catalyst since the catalyst phase separates from the product phase after the reaction. Thus, 224 μ L 2,3-dimethylbutadiene and 248 μ L Me vinyl ketone were added to a mixed solvent of hexafluorobenzene 2, perfluorohexane 2, and dichloromethane 4 mL, followed by adding tris[bis(perfluorooctanesulfonyl)imide] ytterbium (I) in 3 mo% vs. 2,3-dimethylbutadiene, and the resulting mixture was stirred at 37° for 1 h. When the homogeneous reaction mixture was left to stand, it separated into two phases. A total yield of 5-acetyl-2,3-dimethylcyclohex-2-ene (II) in the upper and lower phase was 95%. II was distributed in the upper and the lower phase in 99 and 1%, resp., and the catalyst I was present in the lower phase in $\geq 95\%$, which made it very easy to recover the catalyst.

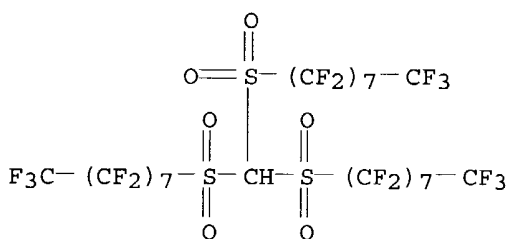
IT 287119-72-6P

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP** (Preparation); RACT (Reactant or reagent)

(reaction medium composition containing Lewis acid catalyst for efficient liquid-phase reaction with easy separation and recycling of catalyst)

RN 287119-72-6 CAPLUS

CN Octane, 1,1',1''-[methylidynetris(sulfonyl)]tris[1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro- (9CI) (CA INDEX NAME)



L9 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1989:516823 CAPLUS

DOCUMENT NUMBER: 111:116823

TITLE: Halotriazine group-containing bifunctional reactive azo dyes

INVENTOR(S): Tzikas, Athanassios

PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.

SOURCE: Eur. Pat. Appl., 58 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 315585	A1	19890510	EP 1988-810633	19880915
EP 315585	B1	19921202		
R: BE, CH, DE, ES, FR, GB, IT, LI				
ES 2052773	T3	19940716	ES 1988-810633	19880915
BR 8804938	A	19890523	BR 1988-4938	19880923
JP 01123867	A2	19890516	JP 1988-237555	19880924
PRIORITY APPLN. INFO.:			CH 1987-4293	19871103

GI For diagram(s), see printed CA Issue.

n = 1-6; R8 = H, (un)substituted C1-4 alkyl; R9 = H, C1-4 alkyl, alkoxy, halogen, carboxy, sulfo; R10 = substituted fiber reactive group-substituted aminoalkylene substituents; L = (un)substituted 4-(5-hydroxy-2-pyridonyl), (un)substituted (acylamino)-1-hydroxy-3-sulfo-2-naphthyl, 8-(acylamino)-1-hydroxy-3, (5 or 6)-disulfo-2-naphthyl, 1-hydroxysulfo-2-naphthyl, 1-hydroxydisulfo-2-naphthyl, (un)substituted 8-amino-1-hydroxy-3 (5 or 6)-disulfo-7-(phenylazo)-2-naphthyl; X = F, Cl, Br, SO₃H, C1-4 alkylsulfonyl, PhSO₂, carboxypyridinium, (un)substituted aminosulfophenylene, (un)substituted aminodisulfophenylene, (un)substituted aminosulfophenylene, Q1, R1 = H, (un)substituted C1-4 alkyl, useful for dyeing or printing of hydroxyl or **amide** group-containing fabrics, are prepared 1,3-Phenylenediamine-4,6-disulfonic

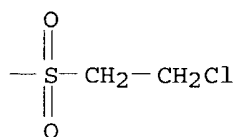
acid was condensed with cyanuric chloride, the condensate condensed with m-H₂NC₆H₄CONH(CH₂)₂SO₂(CH₂)₂OSO₃H, and the chlorotriazine intermediate diazotized and coupled with 3-(aminocarbonyl)-1-ethyl-6-hydroxy-4-methyl-2-pyridone, forming II, greenish yellow on cellulosic fibers.

RL: PREP (Preparation)

RN 122558-60-5 CAPLUS

CN 2,7-Naphthalenedisulfonic acid, 5-(benzoylamino)-3-[[[5-[[4-[[2,5-bis[(2-chloroethyl)sulfonyl]pentyl]amino]-6-fluoro-1,3,5-triazin-2-yl]amino]-2,4-disulphophenyl]azo]-4-hydroxy- (9CI) (CA INDEX NAME)

O=S(=O)(NC1=CC=C(C=C1)C(=O)Nc2c(O)c(S(=O)(=O)C)cc2S(=O)(=O)C)C1=CC=C(C=C1)/N=N/c2cc(S(=O)(=O)C)cc(S(=O)(=O)C)c2Nc3nc(F)c(NCC4C(=O)N(C4)CC5CCCC5)nc3



IT 122558-55-8P

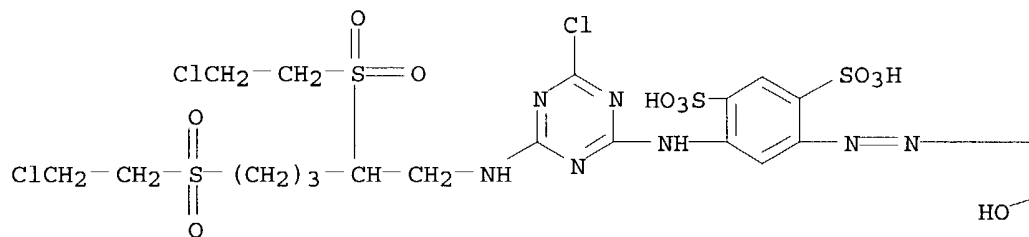
RL: PREP (Preparation)

(dye, yellow, manufacture of)

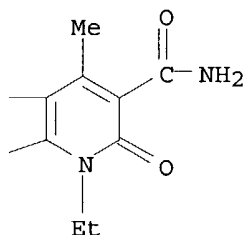
RN 122558-55-8 CAPLUS

CN 1,3-Benzenedisulfonic acid, 4-[[5-(aminocarbonyl)-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-6-[[4-[[2,5-bis[(2-chloroethyl)sulfonyl]pentyl]amino]-6-chloro-1,3,5-triazin-2-yl]amino]-
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



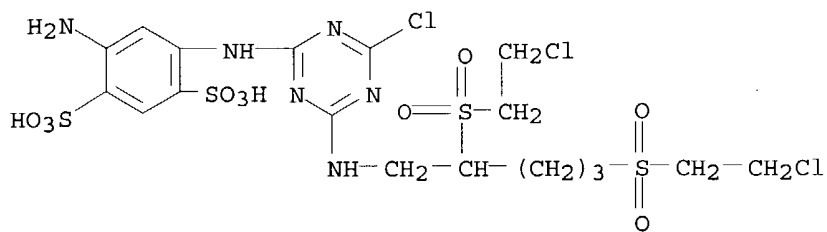
IT 122558-54-7P

RL: IMF (Industrial manufacture); PREP (Preparation)

(preparation and coupling of diazotized, with (aminocarbonyl)ethylhydroxymethylpyridone)

RN 122558-54-7 CAPLUS

CN 1,3-Benzenedisulfonic acid, 4-amino-6-[[4-[[2,5-bis[(2-chloroethyl)sulfonyl]pentyl]amino]-6-chloro-1,3,5-triazin-2-yl]amino]-
(9CI) (CA INDEX NAME)



=> d his

(FILE 'HOME' ENTERED AT 14:06:15 ON 06 JUN 2004)

FILE 'REGISTRY' ENTERED AT 14:06:29 ON 06 JUN 2004

L1 STRUCTURE UPLOADED
 L2 STRUCTURE UPLOADED
 L3 10 S L2
 L4 199 S L2 FULL
 L5 127 S L4 AND 1/NC
 L6 124 S L5 NOT BUTENE?

FILE 'CAPLUS' ENTERED AT 14:09:34 ON 06 JUN 2004

L7 114 S L6
 L8 56 S L6/PREP
 L9 2 S L8 AND AMIDE

=> s l8 and thionyl

13212 THIONYL
 2 THIONYLS
 13214 THIONYL
 (THIONYL OR THIONYLS)

L10 2 L8 AND THIONYL

=> d ibib abs hitstr 1-2

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:601275 CAPLUS
 DOCUMENT NUMBER: 113:201275
 TITLE: Rapid-hardening silver halide photographic materials
 containing water-soluble vinyl sulfone hardeners
 INVENTOR(S): Nishizeki, Masahito; Tachibana, Noriki; Kagawa,
 Nobuaki
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02110544	A2	19900423	JP 1988-262820	19881020
PRIORITY APPLN. INFO.:			JP 1988-262820	19881020

AB The title materials comprise supports and ≥1 layer hardened with a vinyl sulfone of the formula (CH₂:CHSO₂)_nZ (I; Z = a di- to tetravalent hydroxyalkyl-substituted organic group; n = 2, 3, 4). Thus, high-speed color neg. films, prepared by addition of I [Z = CH₂C(CH₂OH)H, n = 2] to each component layer, showed excellent antifogging characteristics and high strength.

IT 130287-90-0P, 2,3-Bis(β-chloroethylsulfonyl)propanol

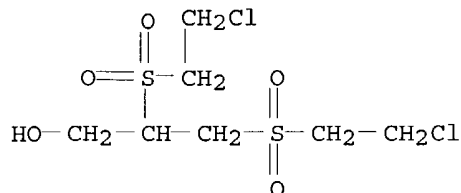
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**

(Preparation); RACT (Reactant or reagent)

(preparation and reaction of, with triethylamine, photog. hardening agents from)

RN 130287-90-0 CAPLUS

CN 1-Propanol, 2,3-bis[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)



L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1985:119627 CAPLUS

DOCUMENT NUMBER: 102:119627

TITLE: Bis(β-chloroethylsulfonyl) alkanes as antitumor agents

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59210015	A2	19841128	JP 1983-83181	19830512
PRIORITY APPLN. INFO.:			JP 1983-83181	19830512

OTHER SOURCE(S): CASREACT 102:119627

AB XCH₂CH₂SO₂CH₂[CH(OH)]_lR[CH(OH)]_m(CH₂)_nSO₂CH₂CH₂X (n = 1 or 2; l or m = 0, 1, or 2; R = C₁-4 alkylene; X = halo) are prepared as antitumor agents. Thus, NaOH was dissolved in a mixture of EtOH and mercaptoethanol [60-24-2], and epichlorohydrin [106-89-8] was added. The reaction product was then treated with H₂O₂ to give 1,3-bis(β-hydroxyethylsulfonyl)propan-2-ol [67006-34-2], which was in turn treated with **thionyl** chloride to give 1,3-bis(β-chloroethylsulfonyl)propan-2-ol (I) [67006-35-3]. The antitumor activity of this product was demonstrated in mice bearing P-388 tumor by i.p. injecting I at 25 .apprx. 100 mg/kg/day.

IT 67006-35-3P 67006-37-5P

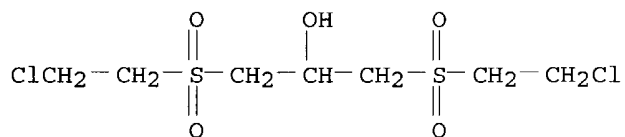
RL: THU (Therapeutic use); BIOL (Biological study); **PREP**

(Preparation); USES (Uses)

(preparation and antitumor activity of)

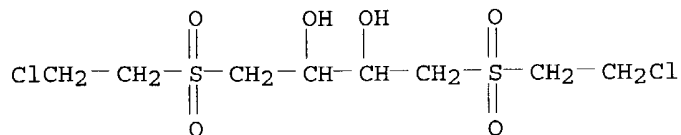
RN 67006-35-3 CAPLUS

CN 2-Propanol, 1,3-bis[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 67006-37-5 CAPLUS

CN 2,3-Butanediol, 1,4-bis[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)



=> sel rn
E1 THROUGH E16 ASSIGNED

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	26.40	192.57
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-2.77	-2.77

FILE 'REGISTRY' ENTERED AT 14:12:12 ON 06 JUN 2004
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STRUCTURE FILE UPDATES: 4 JUN 2004 HIGHEST RN 689739-78-4
DICTIONARY FILE UPDATES: 4 JUN 2004 HIGHEST RN 689739-78-4

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

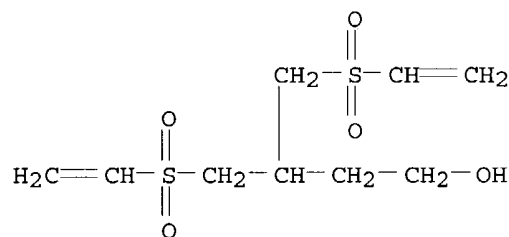
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	(60-24-2/RN)
1	106-89-8/BI
	(106-89-8/RN)
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	(130287-85-3/RN)
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1 2419-73-0/BI
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 1 616-23-9/BI
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 (67006-34-2/RN)
 1 67006-35-3/BI
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 1 67006-36-4/BI
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 OR 130287-87-5/BI OR 130287-88-6/BI OR 130287-89-7/BI OR 130287-
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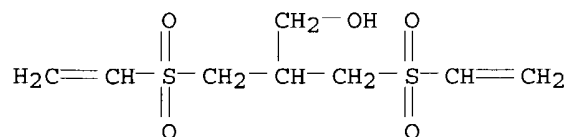
L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1-Butanol, 4-(ethenylsulfonyl)-3-[(ethenylsulfonyl)methyl]- (9CI)
 MF C9 H16 O5 S2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

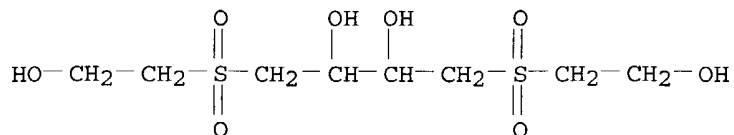
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L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1-Propanol, 3-(ethenylsulfonyl)-2-[(ethenylsulfonyl)methyl]- (9CI)
 MF C8 H14 O5 S2



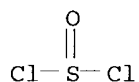
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 2,3-Butanediol, 1,4-bis[(2-hydroxyethyl)sulfonyl]- (9CI)
 MF C8 H18 O8 S2



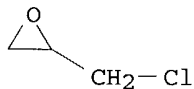
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L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Thionyl chloride (8CI, 9CI)
 MF Cl2 O S
 CI COM



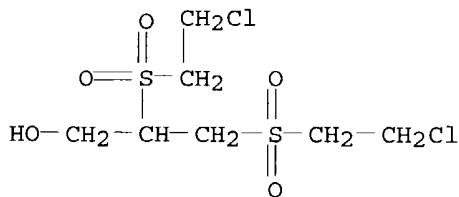
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L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
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 CI COM



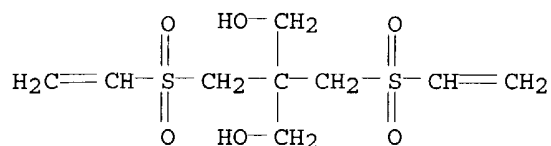
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L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1-Propanol, 2,3-bis[(2-chloroethyl)sulfonyl]- (9CI)
 MF C7 H14 Cl2 O5 S2



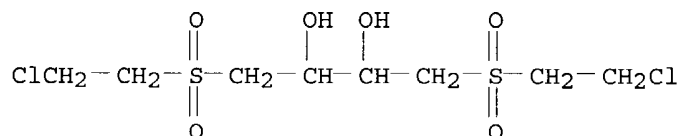
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1,3-Propanediol, 2,2-bis[(ethenylsulfonyl)methyl]- (9CI)
 MF C9 H16 O6 S2



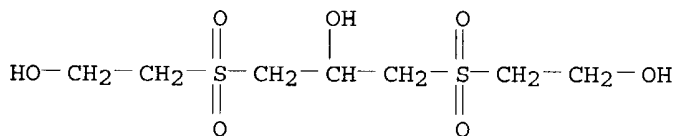
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 2,3-Butanediol, 1,4-bis[(2-chloroethyl)sulfonyl]- (9CI)
 MF C8 H16 Cl2 O6 S2



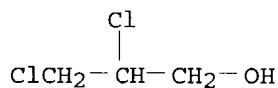
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
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 MF C7 H16 O7 S2



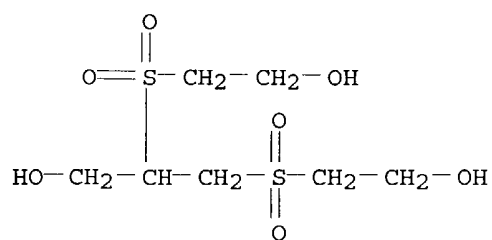
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1-Propanol, 2,3-dichloro- (6CI, 7CI, 8CI, 9CI)
 MF C3 H6 Cl2 O
 CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

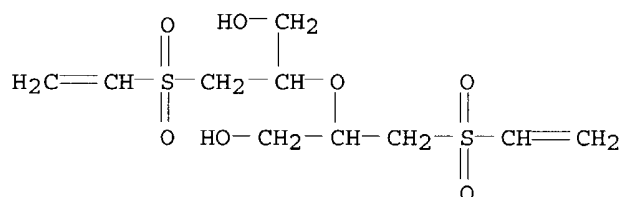
L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1-Propanol, 2,3-bis[(2-hydroxyethyl)sulfonyl]- (9CI)
 MF C7 H16 O7 S2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

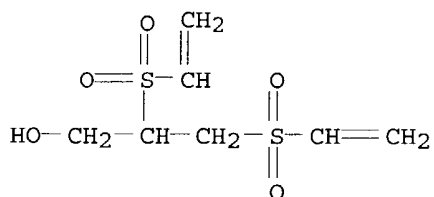
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1-Propanol, 2,2'-oxybis[3-(ethenylsulfonyl)- (9CI)
 MF C10 H18 O7 S2



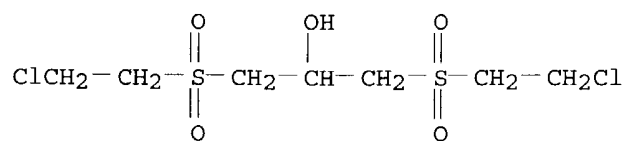
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 1-Propanol, 2,3-bis(ethenylsulfonyl)- (9CI)
 MF C7 H12 O5 S2



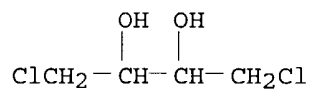
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 2-Propanol, 1,3-bis[(2-chloroethyl)sulfonyl]- (9CI)
 MF C7 H14 Cl2 O5 S2



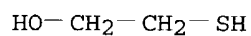
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN 2,3-Butanediol, 1,4-dichloro- (6CI, 7CI, 8CI, 9CI)
 MF C4 H8 Cl2 O2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L11 16 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Ethanol, 2-mercapto- (8CI, 9CI)
 MF C2 H6 O S
 CI COM



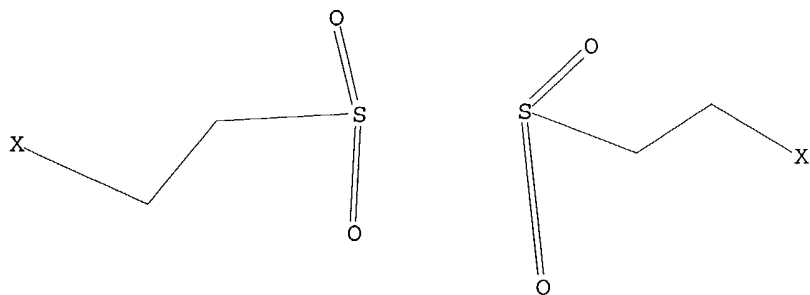
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

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L12 STRUCTURE UPLOADED

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 L12 HAS NO ANSWERS
 L12 STR



Structure attributes must be viewed using STN Express query preparation.

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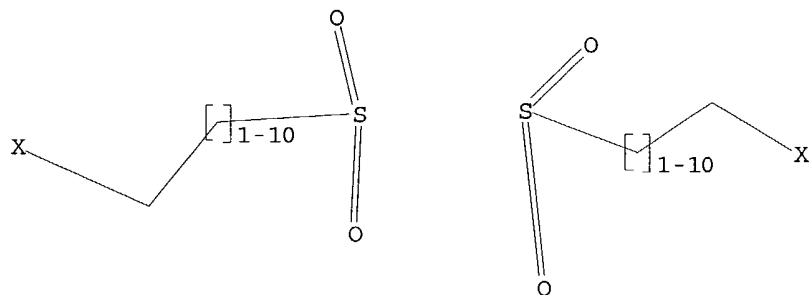
L13 STRUCTURE UPLOADED

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L13 HAS NO ANSWERS

L13 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l13

SAMPLE SEARCH INITIATED 14:17:33 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 316 TO ITERATE

100.0% PROCESSED 316 ITERATIONS

50 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 5254 TO 7386

PROJECTED ANSWERS: 1418 TO 2622

L14 50 SEA SSS SAM L13

=> s l13 full

FULL SEARCH INITIATED 14:17:39 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 6511 TO ITERATE

100.0% PROCESSED 6511 ITERATIONS (2 INCOMPLETE)

1973 ANSWERS

SEARCH TIME: 00.00.01

L15 1973 SEA SSS FUL L13

=> s l15/com

L16 1971 L15/COM

FILE 'REGISTRY' ENTERED AT 14:06:29 ON 06 JUN 2004

L1 STRUCTURE UPLOADED
L2 STRUCTURE UPLOADED
L3 10 S L2
L4 199 S L2 FULL
L5 127 S L4 AND 1/NC
L6 124 S L5 NOT BUTENE?

FILE 'CAPLUS' ENTERED AT 14:09:34 ON 06 JUN 2004

L7 114 S L6
L8 56 S L6/PREP
L9 2 S L8 AND AMIDE
L10 2 S L8 AND THIONYL
SEL RN

FILE 'REGISTRY' ENTERED AT 14:12:12 ON 06 JUN 2004

L11 16 S E1-E16
L12 STRUCTURE UPLOADED
L13 STRUCTURE UPLOADED
L14 50 S L13
L15 1973 S L13 FULL
L16 1971 S L15/COM
L17 1772 S L16 NOT L4
L18 1211 S L17 AND 1/NC
L19 1141 S L18 NOT PMS/CI
L20 1091 S L19 NOT TRIFLUOROMETHYL?
L21 1369 S OL AND SULFONE
L22 STRUCTURE UPLOADED
L23 47 S L22
L24 14 S OL AND L23

=> s l23 full

FULL SEARCH INITIATED 14:23:23 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 34576 TO ITERATE

100.0% PROCESSED 34576 ITERATIONS
SEARCH TIME: 00.00.02

1528 ANSWERS

L25 1528 SEA SSS FUL L22

=> s l25 and 1/nc

61928686 1/NC

L26 1082 L25 AND 1/NC

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

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541.56

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-2.77

FILE 'REGISTRY' ENTERED AT 14:23:47 ON 06 JUN 2004

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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JUN 2004 HIGHEST RN 689739-78-4

DICTIONARY FILE UPDATES: 4 JUN 2004 HIGHEST RN 689739-78-4

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.42	541.98
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-2.77

FILE 'CAPLUS' ENTERED AT 14:23:51 ON 06 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 6 Jun 2004 VOL 140 ISS 24
FILE LAST UPDATED: 4 Jun 2004 (20040604/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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      3155998 PREP/RL
          321 L20/PREP
              (L20 (L) PREP/RL)
          1281 L25
      2628103 RCT/RL
          227 L25/RCT
              (L25 (L) RCT/RL)
L27      15 L20/PREP AND L25/RCT
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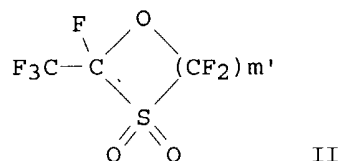
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L27 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:154410 CAPLUS
DOCUMENT NUMBER: 140:181972
TITLE: Fluorooxyalkylbissulfonylimides, their manufacture,
and manufacture of fluorooxyalkenylbissulfonylimides
INVENTOR(S): Uematsu, Nobuyuki; Ikeda, Masanori

PATENT ASSIGNEE(S): Asahi Kasei Corporation, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004059533	A2	20040226	JP 2002-222909	20020731
PRIORITY APPLN. INFO.:			JP 2002-222909	20020731
OTHER SOURCE(S):		MARPAT 140:181972		

GI



AB The fluoroalkoxyalkylbissulfonylimides $\text{CF}_3\text{CFH}[\text{OCF}_2\text{CF}(\text{CF}_3)]_n\text{O}(\text{CF}_2)_m\text{SO}_2\text{NM}_1\text{SO}_2\text{R}_1$ (I) are manufactured by (A) treatment of $\text{CF}_3\text{CFH}[\text{OCF}_2\text{CF}(\text{CF}_3)]_n\text{O}(\text{CF}_2)_m\text{SO}_2\text{F}$ with $\text{R}_1\text{SO}_2\text{NM}_4\text{M}_5$ and optional acid treatment, (B) treatment of $\text{CF}_3\text{CFH}[\text{OCF}_2\text{CF}(\text{CF}_3)]_n\text{O}(\text{CF}_2)_m\text{SO}_2\text{NM}_6\text{M}_7$ with $\text{R}_1\text{SO}_2\text{X}$ and optional acid treatment, or (C) treatment of cyclic perfluorosulfones II ($m' = 2, 3$) with $\text{R}_1\text{SO}_2\text{NM}_8\text{M}_9$ (III) and optional acid treatment (R_1 = fluorinated hydrocarbyl; $\text{M}_1, \text{M}_4, \text{M}_6 = \text{H}$, alkali metal, alkaline earth metal, $\text{C} \leq 10$ hydrocarbyl-substituted silyl, C_{1-10} alkyl, organic ammonium; $\text{M}_5, \text{M}_7, \text{M}_8 = \text{H}$, alkali metal, alkaline earth metal, organic ammonium; $\text{X} = \text{F}, \text{Cl}, \text{OSO}_2\text{R}_1$; $\text{M}_9 =$

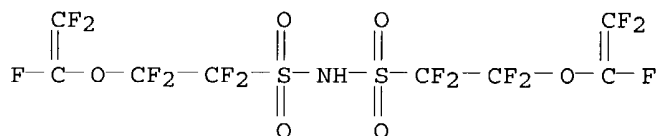
H, organic ammonium; $m = 1-5$; $n = 0-3$). The fluoroalkoxyalkenylbissulfonylimides $\text{CF}_2:\text{CF}[\text{OCF}_2\text{CF}(\text{CF}_3)]_n\text{O}(\text{CF}_2)_m\text{SO}_2\text{NM}_3\text{SO}_2\text{R}_{1a}$ (IV; R_{1a} = same as R_1 , groups having $\text{CF}:\text{CF}$ structure converted from CF_2CHF structure of R_1 ; M_3 = same as M_5), useful as monomers for polymer electrolytes, are manufactured by treatment of I with $\text{M}_2\text{NR}_2\text{R}_3$ (V; M_2 = alkali metals, alkaline earth metals; $\text{R}_2, \text{R}_3 = \text{C}_{1-10}$ hydrocarbyl, $\text{C} \leq 10$ hydrocarbyl-substituted silyl; R_2 and/or R_3 = secondary or tertiary C_{3-10} alkyl or the substituted silyl; R_2 and R_3 may form ring with the vicinal N) and optional acid treatment. Thus, II ($m' = 2$) was treated with III ($\text{R}_1 = \text{CF}_3$, $\text{M}_8 = \text{Li}$, $\text{M}_9 = \text{H}$) and treated with V ($\text{M}_2 = \text{Li}$, $\text{R}_2 = \text{R}_3 = \text{SiMe}_3$) to give 86% IV ($\text{R}_1 = \text{CF}_3$, $\text{M}_1 = \text{Li}$, $m = 2$, $n = 0$).

IT **658754-75-7P**

RL: IMF (Industrial manufacture); **PREP (Preparation)**
 (manufacture of fluoroalkylbissulfonylimides as intermediates for fluoroalkenylbissulfonylimides as monomers for polymer electrolytes)

RN 658754-75-7 CAPLUS

CN Ethanesulfonamide, 1,1,2,2-tetrafluoro-N-[[1,1,2,2-tetrafluoro-2-[(trifluoroethenyl)oxy]ethyl]sulfonyl]-2-[(trifluoroethenyl)oxy]- (9CI)
 (CA INDEX NAME)



IT **658754-58-6P 658754-59-7P**

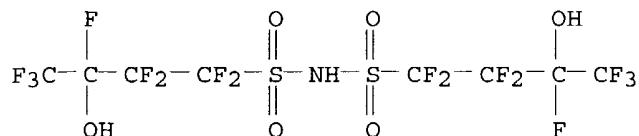
RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(manufacture of fluoroalkylbissulfonylimides as intermediates for fluoroalkenylbissulfonylimides as monomers for polymer electrolytes)

RN 658754-58-6 CAPLUS

CN 1-Butanesulfonamide, 1,1,2,2,3,4,4,4-octafluoro-3-hydroxy-N-[(1,1,2,2,3,4,4,4-octafluoro-3-hydroxybutyl)sulfonyl]- (9CI) (CA INDEX NAME)



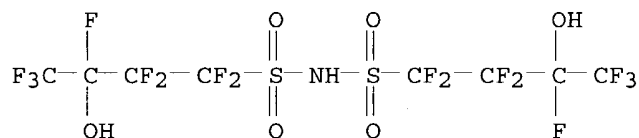
RN 658754-59-7 CAPLUS

CN 1-Butanesulfonamide, 1,1,2,2,3,4,4,4-octafluoro-3-hydroxy-N-[(1,1,2,2,3,4,4,4-octafluoro-3-hydroxybutyl)sulfonyl]-, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 658754-58-6

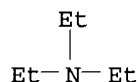
CMF C8 H3 F16 N O6 S2



CM 2

CRN 121-44-8

CMF C6 H15 N



L27 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:15502 CAPLUS

DOCUMENT NUMBER: 138:73072

TITLE: Preparation of haloalkyl sulfones and vinyl sulfones without using thionyl chloride

INVENTOR(S): Tamura, Atsushi; Ikegawa, Akihiko

PATENT ASSIGNEE(S): Wako Pure Chemical Industries, Ltd., Japan; Fuji Photo Film Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND DATE

APPLICATION NO. DATE

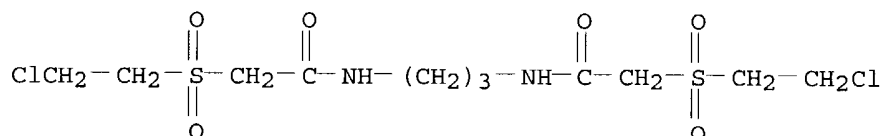
 JP 2003002874 A2 20030108 JP 2001-185936 20010620
 PRIORITY APPLN. INFO.: JP 2001-185936 20010620
 OTHER SOURCE(S): MARPAT 138:73072

AB Comps. having R1R2C:CR3T1SO2 groups [T1 = bond, lower alkylene; R1-R3 = H, lower alkyl; R1-R3 may be linked to form (un)substituted alicyclyl (condensed with aromatic or heterocyclic ring)] are prepared by treatment of comps. having HOCR1R2CHR3T1SO2 groups (T1, R1-R3 = same as as above) with cyanuric halide, followed by dehydrohalogenation of the resulting halides in the presence of base catalysts. Thus, 4-methylphenyl 2-hydroxyethyl sulfone was chlorinated by cyanuric chloride at 70-78° for 2.5 h in acetone and subsequently treated with Et3N at 20-30° to give 99.8% 4-methylphenyl vinyl sulfone.

IT **482371-26-6P**
 RL: IMF (Industrial manufacture); **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
 (one-pot preparation of vinyl sulfones by halogenation of hydroxyalkyl sulfones by cyanuric halide)

RN 482371-26-6 CAPLUS

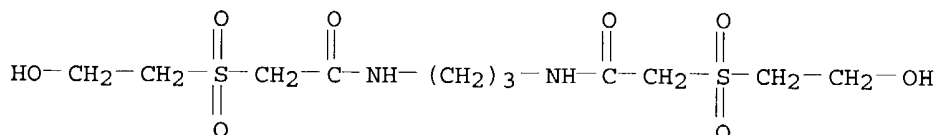
CN Acetamide, N,N'-1,3-propanediylbis[2-[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)



IT **401584-57-4**
 RL: **RCT (Reactant)**; RACT (Reactant or reagent)
 (one-pot preparation of vinyl sulfones by halogenation of hydroxyalkyl sulfones by cyanuric halide)

RN 401584-57-4 CAPLUS

CN Acetamide, N,N'-1,3-propanediylbis[2-[(2-hydroxyethyl)sulfonyl]- (9CI)
 (CA INDEX NAME)



L27 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:847618 CAPLUS

DOCUMENT NUMBER: 135:378685

TITLE: Silver halide photographic material containing
 hardening agent

INVENTOR(S): Yoshida, Kazuhiro

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.

CODEN: JKXXAF

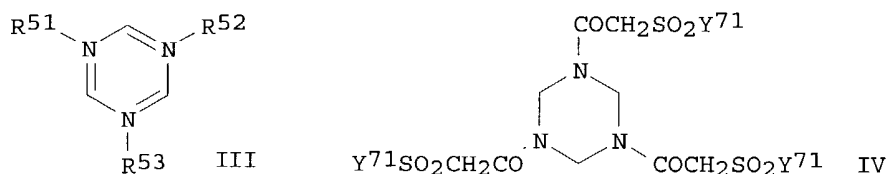
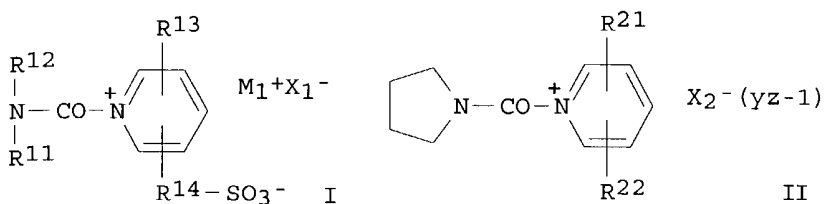
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001324775	A2	20011122	JP 2000-142498	20000515



AB The photog. material has ≥ 1 emulsion layer hardened by a compound I, II, and/or R₄₁P(:X₄₁)O(O)n₄NZ₄₁Z₄₂(Y₄)m₄, and a hardening agent III (R₁₁ and R₁₂ = C₁-3 alkyl, aryl, aralkyl; R₁₁ and R₁₂ may form a piperidine ring or a morpholine ring; R₁₃ = H or alkyl; R₁₄ = methylene, ethylene, propylene, or bond; M₁⁺ = alkali metal ion; X₁⁻ = anion; R₂₁ = H, alkyl, alkoxy; R₂₂ = alkyl, acyl, acylamino; X₂⁻ = anion; y₂ = 1 or 2; Z₄₁ and Z₄₂ = alkyl, cycloalkyl, aryl, or alkoxy; Z₄₁ and Z₄₂ may form 5- or 6-member aromatic heterocycle; Y₄ = alkyl, cycloalkyl, aryl; X₄₁ = O or S; R₄₁ = alkyl, cycloalkyl, aryl, alkyloxy, aryloxy, alkylthio, arylthio, amino, O-; n₄ = 0 or 1; m₄ = 0 or 1; R₅₁ and R₅₂ = halo, N-methylolamino, glycidoxo; R₅₃ = H, halo, OH, OM (M = alkali metal ion), amino, ether, thioether, sulfonamide, alkyl, aryl). Also claimed is a photog. material containing a hardening agent (Y₆₁SO₂CH₂CNR₆₁)₂A₆₁, IV, and/or CH₂:CHSO₂CHR₈₁(OCHR₈₁)n₈₁SO₂CH:CH₂ (Y₆₁ = vinyl; A₆₁ = bond or divalent bond; R₆₁ = H or C₁-4 hydrocarbyl; Y₇₁ = vinyl; R₈₁ = H, alkyl, aralkyl, aryl; n₈₁ = 0 or 1). The material may contain a hydrazine derivative. The material shows rapid hardening property.

IT 66710-71-2P 68940-08-9P

RL: PNU (Preparation, unclassified); RCT (Reactant); PREP

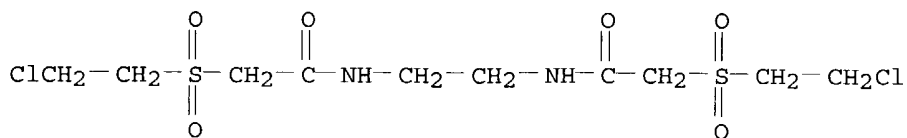
(Preparation); RACT (Reactant or reagent)

(preparation and reaction of; in preparation of vinylsulfonyl compound for photog.

hardening agent)

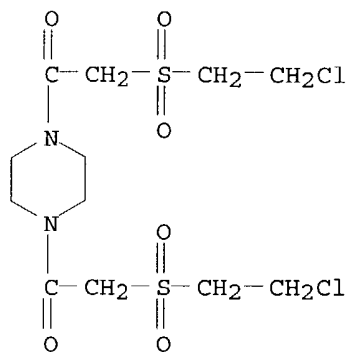
RN 66710-71-2 CAPLUS

CN Acetamide, N,N'-1,2-ethanediylbis[2-[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 68940-08-9 CAPLUS

CN Piperazine, 1,4-bis[[2-(2-chloroethyl)sulfonyl]acetyl]- (9CI) (CA INDEX NAME)



L27 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:151476 CAPLUS

DOCUMENT NUMBER: 132:194112

TITLE: Preparation of haloethylsulfonyl compounds

INVENTOR(S): Suzuki, Takayuki; Kato, Katsunori; Shimizu, Toshiki; Sato, Yasuyuki

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000072741	A2	20000307	JP 1998-259275	19980828
PRIORITY APPLN. INFO.:			JP 1998-259275	19980828

OTHER SOURCE(S): CASREACT 132:194112; MARPAT 132:194112

AB SO₂CR₁R₂CR₃R₄X group-containing compds. (R₁-R₄ = H, monovalent substitutes; X = halo) are prepared by reaction of SO₂CR₁R₂CR₃R₄OH group-containing compds. (R₁-R₄ = same as above) with halogenating agents in R₅OCO₂R₆ (R₅, R₆ = alkyl) solvents. 1,3-Bis(β-hydroxyethylsulfonyl)-2-propanol was chlorinated with SOCl₂ in the presence of pyridine in MeOCO₂Me at 60° for 4 h to give 85% 1,3-bis(β-chloroethylsulfonyl)-2-propanol.

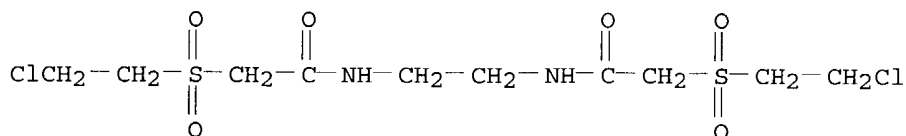
IT 66710-71-2P 68940-08-9P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); **PREP** (Preparation)

(preparation of haloethylsulfonyl compds. by halogenation of hydroxyethylsulfonyl compds. in alkyl carbonate solvents)

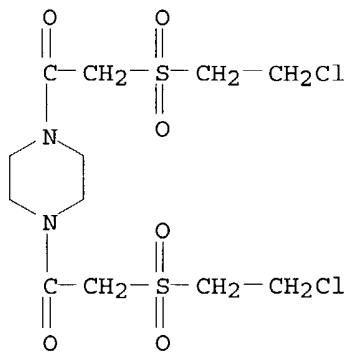
RN 66710-71-2 CAPLUS

CN Acetamide, N,N'-1,2-ethanediylbis[2-[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)

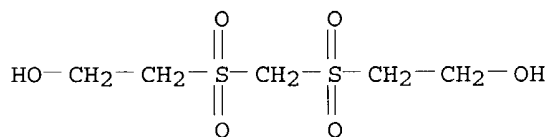


RN 68940-08-9 CAPLUS

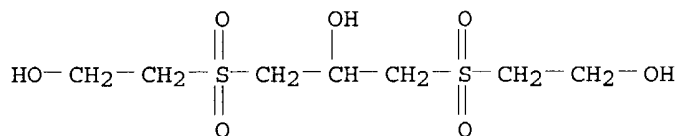
CN Piperazine, 1,4-bis[[2-(chloroethyl)sulfonyl]acetyl]- (9CI) (CA INDEX NAME)



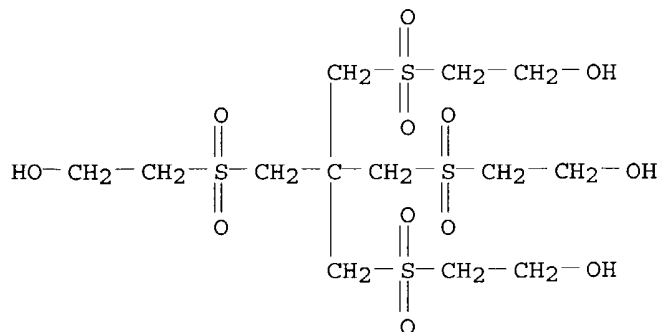
IT 41123-69-7, Bis(β-hydroxyethylsulfonyl)methane
 67006-34-2, 1,3-Bis(β-hydroxyethylsulfonyl)-2-propanol
 79074-09-2 82919-65-1 160476-35-7
 259823-59-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of haloethylsulfonyl compds. by halogenation of
 hydroxyethylsulfonyl compds. in alkyl carbonate solvents)
 RN 41123-69-7 CAPLUS
 CN Ethanol, 2,2'-[methylenebis(sulfonyl)]bis- (9CI) (CA INDEX NAME)



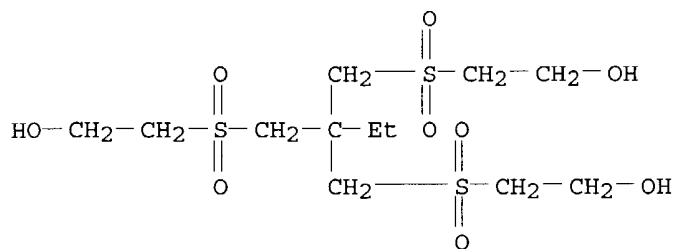
RN 67006-34-2 CAPLUS
 CN 2-Propanol, 1,3-bis[(2-hydroxyethyl)sulfonyl]- (9CI) (CA INDEX NAME)



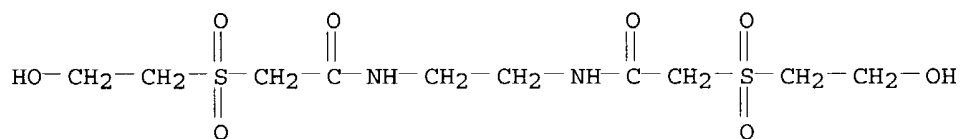
RN 79074-09-2 CAPLUS
 CN Ethanol, 2,2'-[[2,2-bis[[2-hydroxyethyl)sulfonyl]methyl]-1,3-propanediyl]bis(sulfonyl)]bis- (9CI) (CA INDEX NAME)



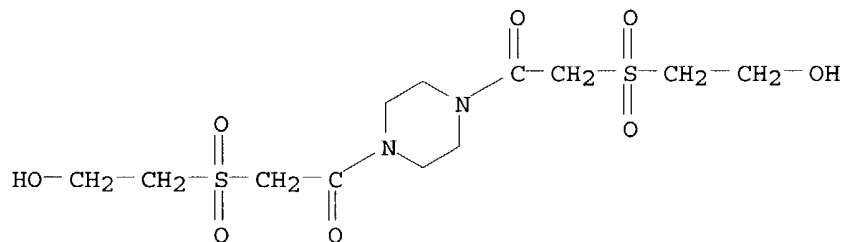
RN 82919-65-1 CAPLUS
 CN Ethanol, 2,2'-[[2-ethyl-2-[[2-(2-hydroxyethyl)sulfonyl]methyl]-1,3-propanediyl]bis(sulfonyl)]bis- (9CI) (CA INDEX NAME)



RN 160476-35-7 CAPLUS
 CN Acetamide, N,N'-1,2-ethanediylbis[2-[(2-hydroxyethyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 259823-59-1 CAPLUS
 CN Piperazine, 1,4-bis[[2-(2-hydroxyethyl)sulfonyl]acetyl]- (9CI) (CA INDEX NAME)



L27 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:586306 CAPLUS
 DOCUMENT NUMBER: 129:223201
 TITLE: Photographic hardening agent, silver halide
 photographic material using it, and processing of the
 material
 INVENTOR(S): Kataoka, Emiko; Miura, Norio
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 69 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10237041	A2	19980908	JP 1997-39181	19970224
PRIORITY APPLN. INFO.:			JP 1997-39181	19970224

AB The agent is H2C:CHSO2CR1R2AJA1CR3R4SO2CH:CH2 (R1-4 = H, monovalent organic group; A, A1 = CONR5, O, S, Om, NR6, NR7CO, SO2NR8, NR9CONR10; R5-10 = H, alkyl, aryl; m = 0-2; J = alkylene or arylene having ≥1 group selected from OH, carboxyl, sulfo, mercapto, quaternary ammonium; when A and A1 are CONR5, J does not have OH group). In the photog. material, ≥1 of hydrophilic colloidal layer is hardened by the agent. The material is processed by a developer having pH 7.5-10.5. The agent shows rapid hardening of gelatin without post-hardening effect and the material gives images without residual color stains.

IT 212561-49-4P 212561-50-7P 212561-52-9P

212561-53-0P

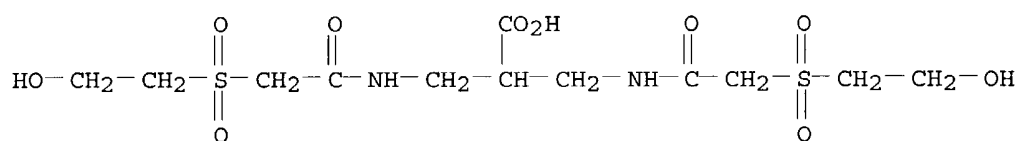
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(preparation of vinylsulfone compound photog. hardening agent)

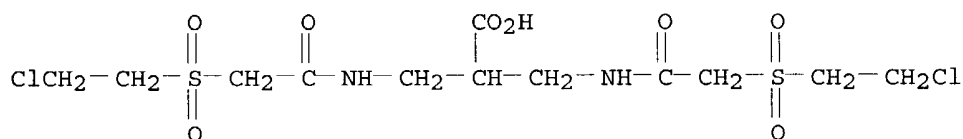
RN 212561-49-4 CAPLUS

CN Propanoic acid, 3-[[[(2-hydroxyethyl)sulfonyl]acetyl]amino]-2-[[[(2-hydroxyethyl)sulfonyl]acetyl]amino]methyl]- (9CI) (CA INDEX NAME)



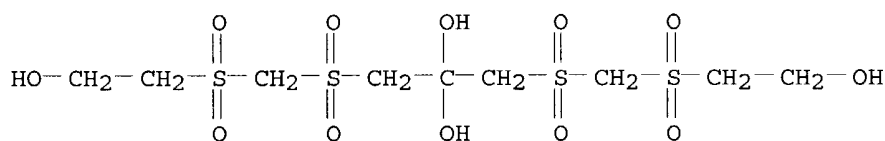
RN 212561-50-7 CAPLUS

CN Propanoic acid, 3-[[[(2-chloroethyl)sulfonyl]acetyl]amino]-2-[[[(2-chloroethyl)sulfonyl]acetyl]amino]methyl]- (9CI) (CA INDEX NAME)



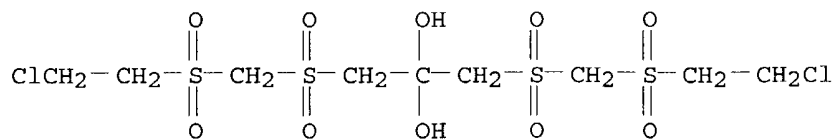
RN 212561-52-9 CAPLUS

CN 3,5,9,11-Tetrathiatridecane-1,7,7,13-tetrol, 3,3,5,5,9,9,11,11-octaoxide (9CI) (CA INDEX NAME)



RN 212561-53-0 CAPLUS

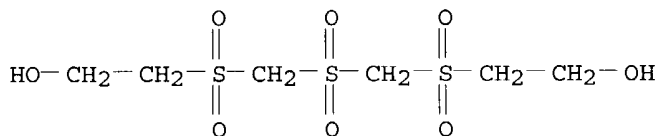
CN 3,5,9,11-Tetrathiatridecane-7,7-diol, 1,13-dichloro-, 3,3,5,5,9,9,11,11-octaoxide (9CI) (CA INDEX NAME)



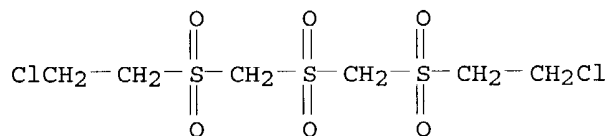
ACCESSION NUMBER: 1993:459624 CAPLUS
 DOCUMENT NUMBER: 119:59624
 TITLE: Silver halide photographic material hardened by
 divinylsulfone type hardening agent
 INVENTOR(S): Nishizeki, Masahito; Kawashima, Yasuhiko
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05011396	A2	19930122	JP 1991-165774	19910705
PRIORITY APPLN. INFO.:			JP 1991-165774	19910705

AB The claimed photog. material has ≥ 1 component layer hardened by a compound $\text{CH}_2\text{CHSO}_2\text{CH}_2\text{SO}_2(\text{ZSO}_2)_n\text{CH}_2\text{SO}_2\text{CH}:\text{CH}_2$ (Z = bivalent organic group; $n = 0, 1$). The hardening agent is rapid hardening type effective even at low humidity condition.
 IT **148681-16-7P**
 RL: **RCT (Reactant)**; PREP (Preparation); RACT (Reactant or reagent)
 (preparation and chlorination of)
 RN 148681-16-7 CAPLUS
 CN Ethanol, 2,2'-[sulfonylbis(methylenesulfonyl)]bis- (9CI) (CA INDEX NAME)



IT **148681-17-8P**
 RL: **PREP (Preparation)**
 (preparation and hydrogen chloride-removal of)
 RN 148681-17-8 CAPLUS
 CN Ethane, 1,1'-[sulfonylbis(methylenesulfonyl)]bis[2-chloro- (9CI) (CA INDEX NAME)



L27 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:217995 CAPLUS
 DOCUMENT NUMBER: 114:217995
 TITLE: Silver halide photographic materials containing
 rapid-acting vinyl sulfone hardening agent
 INVENTOR(S): Nishizeki, Masahito; Tachibana, Noriki; Kagawa, Nobuaki
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02238451	A2	19900920	JP 1989-57891	19890313
PRIORITY APPLN. INFO.:			JP 1989-57891	19890313

OTHER SOURCE(S): MARPAT 114:217995

AB The photog. material has ≥ 1 component layer(s) hardened with
CH₂:CHSO₂CH₂CONRCH₂CR₁(OH)[ZCR₂(OH)]_mCH₂NR₃COCH₂SO₂CH:CH₂ and/or
CH₂:CHSO₂CH₂CONR₄CH(CH₂OH)[Z₁CH(CH₂OH)]_nNR₅COCH₂SO₂CH:CH₂ (R, R₃₋₅ = H,
C₁₋₄ hydrocarbon, CH₂:CHSO₂CH₂CO; R + R₃, R₄ + R₅ may be C₁₋₄ alkylene and
form rings; R₁, R₂ = H, C₁₋₄ alkyl, CH₂:CHSO₂CH₂CONR₆CH₂; R₆ = H, C₁₋₄
hydrocarbon; Z, Z₁ = organic moiety, bivalent linkage group; m, n = 0, 1).

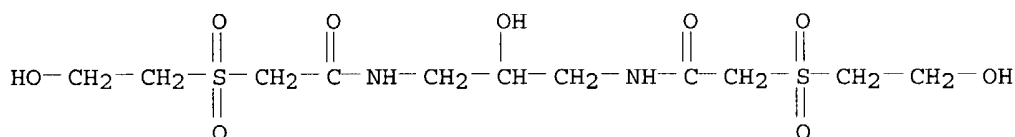
IT 133838-60-5P

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and chlorination of, vinylsulfone hardening agents from, for photog. materials)

RN 133838-60-5 CAPLUS

CN Acetamide, N,N'-(2-hydroxy-1,3-propanediyl)bis[2-[(2-hydroxyethyl)sulfonyl]- (9CI) (CA INDEX NAME)



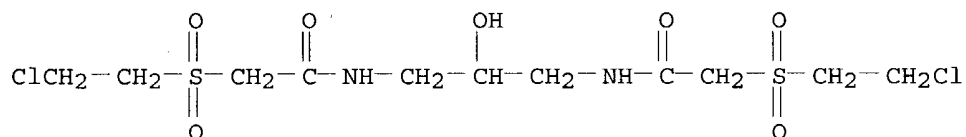
IT 133838-61-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reduction of, vinylsulfone hardening agents from, for photog. materials)

RN 133838-61-6 CAPLUS

CN Acetamide, N,N'-(2-hydroxy-1,3-propanediyl)bis[2-[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)



L27 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:601276 CAPLUS

DOCUMENT NUMBER: 113:201276

TITLE: Silver halide photographic materials containing water-soluble vinyl sulfone hardeners

INVENTOR(S): Nishizeki, Masahito; Tachibana, Noriki; Kagawa, Nobuaki

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02110545	A2	19900423	JP 1988-262821	19881020
PRIORITY APPLN. INFO.:			JP 1988-262821	19881020

AB The title materials comprise supports and ≥ 1 layer hardened with vinyl sulfones of the formula $(\text{CH}_2:\text{CHSO}_2\text{CH}_2\text{CH}_2\text{CONR})_n\text{Z}$ (I; R = H, C1-4 hydrocarbon residue, $\text{CH}_2:\text{CHSO}_2\text{CH}_2\text{CH}_2\text{CO}$; Z = a di- to tetravalent OH-substituted organic group; n = 2, 3, 4). Thus, high-speed color neg. films, prepared by addition of the vinyl sulfone I [R = H; Z = $\text{CH}_2\text{CH}(\text{OH})\text{CH}_2$; n = 2] to each component layer, showed excellent antifogging characteristics and high strength.

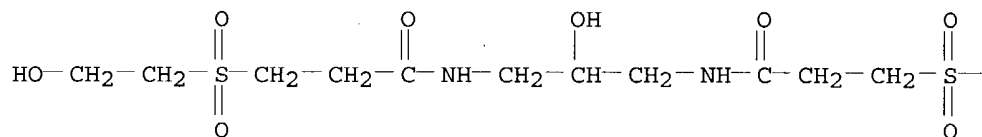
IT **130304-55-1P**

RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with thionyl chloride, photog. hardening agents from)

RN 130304-55-1 CAPLUS

CN Propanamide, N,N'-(2-hydroxy-1,3-propanediyl)bis[3-[(2-hydroxyethyl)sulfonyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— $\text{CH}_2-\text{CH}_2-\text{OH}$

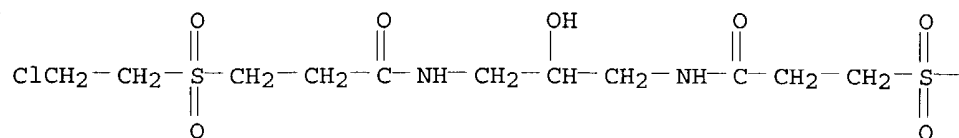
IT **130304-56-2P**

RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation and reaction of, with triethylamine, photog. hardening agents from)

RN 130304-56-2 CAPLUS

CN Propanamide, N,N'-(2-hydroxy-1,3-propanediyl)bis[3-[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



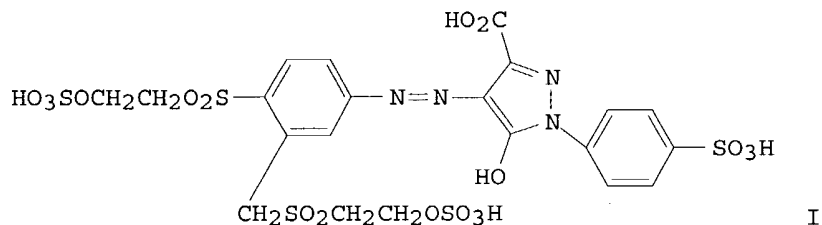
PAGE 1-B

— $\text{CH}_2-\text{CH}_2\text{Cl}$

L27 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:499387 CAPLUS
DOCUMENT NUMBER: 113:99387
TITLE: Dyes having at least two fiber-reactive groups, and their intermediates
INVENTOR(S): Patsch, Manfred; Nahr, Uwe; Wirsing, Friedrich; Jessen, Joerg L.; Pandl, Klaus; Marschner, Claus; Dust, Matthias
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: Eur. Pat. Appl., 81 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 352682	A2	19900131	EP 1989-113540	19890722
EP 352682	A3	19901010		
EP 352682	B1	19940202		
R: CH, DE, FR, GB, IT, LI				
DE 3825656	A1	19900322	DE 1988-3825656	19880728
JP 02073867	A2	19900313	JP 1989-194394	19890728
US 5210187	A	19930511	US 1992-865744	19920409
PRIORITY APPLN. INFO.:			DE 1988-3825656	19880728
			US 1989-381941	19890719
			US 1990-554860	19900720
OTHER SOURCE(S):		CASREACT 113:99387; MARPAT 113:99387		
GI				

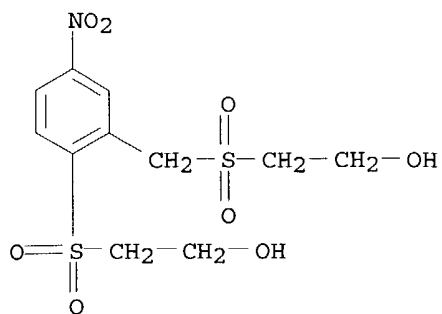


AB The dyes have a high color yield and are useful for dyeing hydroxyl group-containing fibers (e.g., cotton, wool). Thus, 4-(2-sulfatoethylsulfonyl)-3-(2-sulfatoethylsulfonylmethyl)aniline was diazotized and coupled with 1-(4-sulfophenyl)-3-carboxy-5-pyrazolone, forming I, which dyed cotton fast yellow shades.

IT 127415-37-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (preparation and reduction of)

RN 127415-37-6 CAPLUS

CN Ethanol, 2-[[2-[[[(2-hydroxyethyl)sulfonyl]methyl]-4-nitrophenyl]sulfonyl]- (9CI) (CA INDEX NAME)

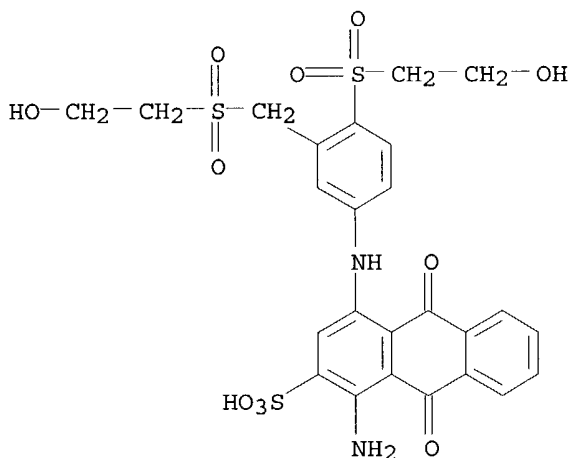


IT 127415-31-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and sulfonation of)

RN 127415-31-0 CAPLUS

CN 2-Anthracenesulfonic acid, 1-amino-9,10-dihydro-4-[[4-[(2-hydroxyethyl)sulfonyl]-3-[[[(2-hydroxyethyl)sulfonyl]methyl]phenyl]amino]-9,10-dioxo- (9CI) (CA INDEX NAME)

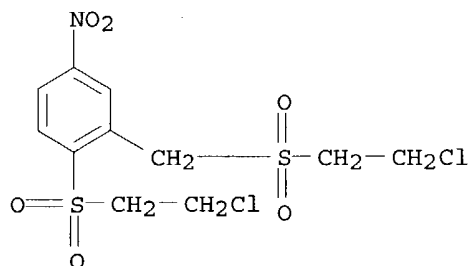


IT 127415-38-7P

RL: IMF (Industrial manufacture); PREP (Preparation) (preparation of, in reactive dye manufacture)

RN 127415-38-7 CAPLUS

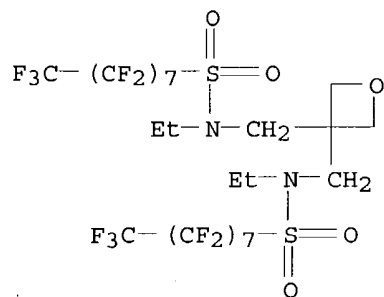
CN Benzene, 1-[(2-chloroethyl)sulfonyl]-2-[[[(2-chloroethyl)sulfonyl]methyl]-4-nitro- (9CI) (CA INDEX NAME)



ACCESSION NUMBER: 1990:217687 CAPLUS
 DOCUMENT NUMBER: 112:217687
 TITLE: Heteroatom-containing perfluoroalkyl-terminated neopentyl glycols and polymers therefrom
 INVENTOR(S): Falk, Robert A.; Clark, Kirtland P.; Karydas, Athanasios; Jacobson, Michael
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 25 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

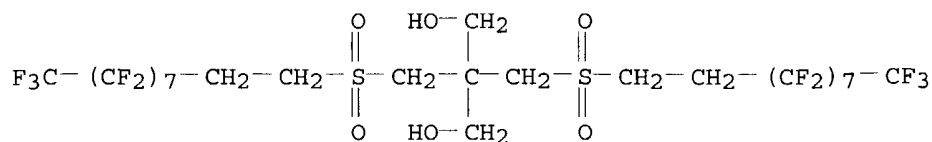
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 348350	A1	19891227	EP 1989-810449	19890613
EP 348350	B1	19930120		
R: BE, CH, DE, FR, GB, IT, LI, NL				
US 4898981	A	19900206	US 1988-209743	19880620
US 4946992	A	19900807	US 1989-339326	19890414
CA 1338174	A1	19960319	CA 1989-603004	19890616
JP 02097586	A2	19900410	JP 1989-155997	19890620
JP 3165141	B2	20010514		
US 5045624	A	19910903	US 1990-533619	19900605
PRIORITY APPLN. INFO.:			US 1988-209743 A	19880620
			US 1989-339326 A3	19890414

OTHER SOURCE(S): CASREACT 112:217687; MARPAT 112:217687
 AB The title compds. H[OCH₂C(CH₂XERf)2CH₂]mOH(I) or H[OCH₂C(CH₂XRf)2CH₂]mOH (II) (Rf = C1-18 perfluoroalkyl or its C26 perfluoroalkoxy substituted derivs.; E = C1-10 alkylene, or interrupted by NR, O, S, SO₂, COO, OOC, CONR, NRCO, SO₂NR, and NRSO₂, or terminated at Rf end with CONR, SO₂NR; X = S, O, SO₂, NR in I, and X = CONR, SO₂NR in II; R = H, C1-6 alkyl, C2-6 hydroxyalkyl; m = 1-3) useful for preparation of polyurethanes, polyesters or polycarbonates as oil- and water-repellent coatings are prepared. Thus, heating 1,1,2,2-tetrahydroperfluorooctanethiol 176.7, dibromoneopentyl glycol 60.8, K₂CO₃ 64.3, and 2-pentanone 53.2 g at 105° for 16 h gave 2,2-bis(1,1,2,2-tetrahydroperfluorooctylthiomethyl)-1,3-propanediol.
 IT **127193-32-2P**
 RL: RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
 (preparation and hydrolysis of)
 RN 127193-32-2 CAPLUS
 CN 1-Octanesulfonamide, N,N'-[3-oxetanylidenebis(methylene)]bis[N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro- (9CI) (CA INDEX NAME)



IT **127193-28-6P**
 RL: **PREP (Preparation)**
 (preparation and polymn of.)
 RN 127193-28-6 CAPLUS

CN 1,3-Propanediol, 2,2-bis[[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)sulfonyl)methyl]- (9CI) (CA INDEX NAME)

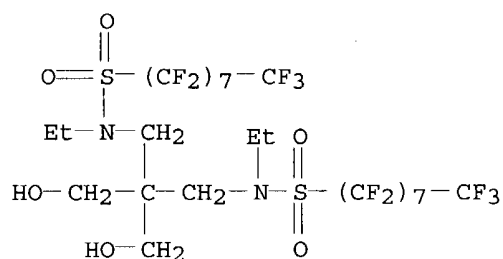


IT 127193-35-5P 127193-37-7P 127193-40-2P
127193-41-3P 127193-43-5P

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)

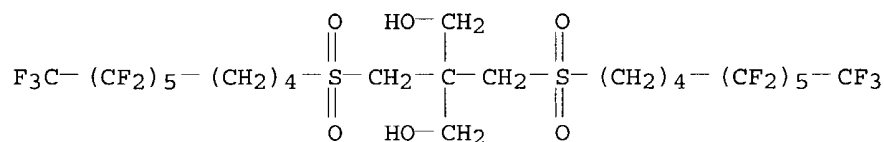
RN 127193-35-5 CAPLUS

CN 1-Octanesulfonamide, N,N'-[2,2-bis(hydroxymethyl)-1,3-propanediyl]bis[N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro- (9CI) (CA INDEX NAME)



RN 127193-37-7 CAPLUS

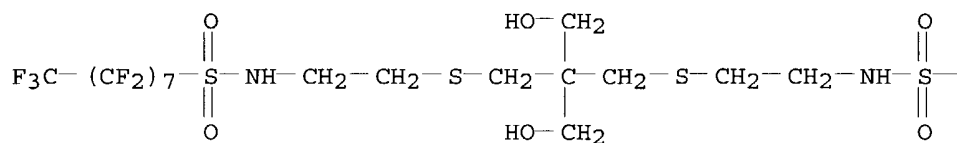
CN 1,3-Propanediol, 2,2-bis[[(5,5,6,6,7,7,8,8,9,9,10,10,10-tridecafluorodecyl)sulfonyl)methyl]- (9CI) (CA INDEX NAME)

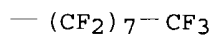


RN 127193-40-2 CAPLUS

CN 1-Octanesulfonamide, N,N'-[[2,2-bis(hydroxymethyl)-1,3-propanediyl]bis(thio-2,1-ethanediyl)]bis[1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro- (9CI) (CA INDEX NAME)]

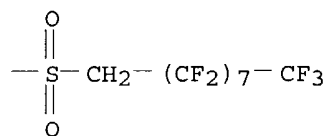
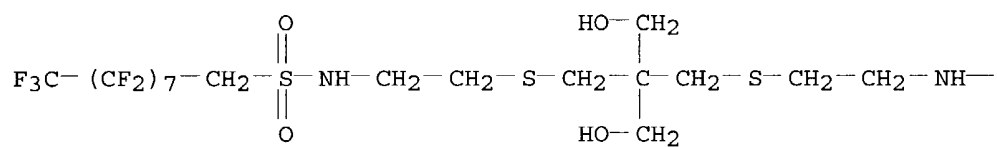
PAGE 1-A





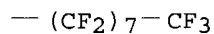
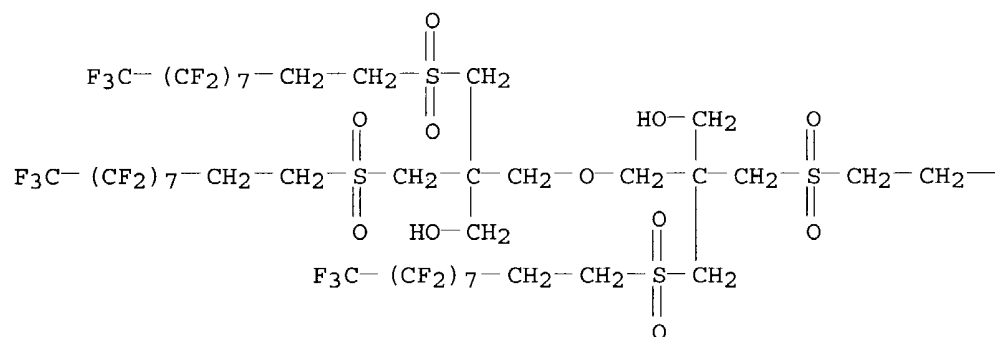
RN 127193-41-3 CAPLUS

CN 1-Nonanesulfonamide, N,N'-[[2,2-bis(hydroxymethyl)-1,3-propanediyl]bis(thio-2,1-ethanediyl)]bis[2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptafluoro- (9CI) (CA INDEX NAME)



RN 127193-43-5 CAPLUS

CN 1-Propanol, 3,3'-oxybis[2,2-bis[[[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorodecyl)sulfonyl]methyl]- (9CI) (CA INDEX NAME)



ACCESSION NUMBER: 1987:111280 CAPLUS
 DOCUMENT NUMBER: 106:111280
 TITLE: Light-sensitive photographic recording material
 containing heteroaromatic vinyl sulfone compound
 hardener
 INVENTOR(S): Oehlschlaeger, Hans; Schranz, Karl Wilhelm; Sobel,
 Johannes
 PATENT ASSIGNEE(S): Agfa-Gevaert A.-G., Fed. Rep. Ger.
 SOURCE: Ger. Offen., 9 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3523360	A1	19870108	DE 1985-3523360	19850629
EP 207399	A2	19870107	EP 1986-108433	19860620
EP 207399	A3	19891129		
EP 207399	B1	19910814		
R: BE, CH, DE, FR, GB, LI, NL				
JP 62004275	A2	19870110	JP 1986-150693	19860628
US 4840890	A	19890620	US 1988-147032	19880119
PRIORITY APPLN. INFO.:			DE 1985-3523360	19850629
			US 1986-875607	19860618

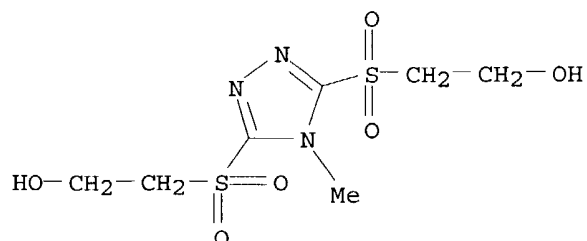
OTHER SOURCE(S): CASREACT 106:111280

AB Heteroarom. vinyl sulfones are described for use in hardening
 gelatin-containing photog. layers. A multilayer color photog. having each
 layer hardened by addition of 0.6 weight%
 3,5-bis(vinylsulfonyl)-4-methyl-1,2,4-
 triazole (I), which was prepared by treating 3,5-dimercapto-4-methyl-1,2,4-
 triazole with chloroethanol, oxidation, chlorination, and then
 dehydrochlorination, showed a m.p. of 100, a swelling factor of 3.5, and a
 wet scratch resistance of 3.0 N after 36 h of storage at 57° and
 34% relative humidity vs. 40, 6-8, and nil (no data), resp., for a I-free
 control.

IT **107020-64-4P**
 RL: **RCT (Reactant)**; PREP (Preparation); RACT (Reactant or
 reagent)
 (preparation and chlorination of)

RN 107020-64-4 CAPLUS

CN Ethanol, 2,2'-[(4-methyl-4H-1,2,4-triazole-3,5-diyl)bis(sulfonyl)]bis-
 (9CI) (CA INDEX NAME)

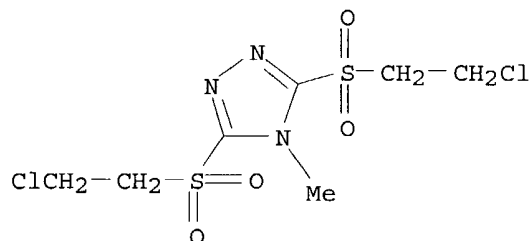


IT **107020-65-5P**
 RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**
(Preparation); RACT (Reactant or reagent)
 (preparation and dehydrochlorination of)

RN 107020-65-5 CAPLUS

CN 4H-1,2,4-Triazole, 3,5-bis[(2-chloroethyl)sulfonyl]-4-methyl- (9CI) (CA

INDEX NAME)



L27 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1986:628493 CAPLUS
DOCUMENT NUMBER: 105:228493
TITLE: Reactive dyes
INVENTOR(S): Aeschlimann, Peter; Schwander, Hansrudolf
PATENT ASSIGNEE(S): Ciba-Geigy A.-G. , Switz.
SOURCE: Eur. Pat. Appl., 58 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 174909	A1	19860319	EP 1985-810383	19850826
EP 174909	B1	19911016		
R: BE, CH, DE, FR, GB, IT, LI				
JP 61111363	A2	19860529	JP 1985-189990	19850830
JP 06092543	B4	19941116		
US 4841028	A	19890620	US 1987-86173	19870810
PRIORITY APPLN. INFO.:			CH 1984-4155	19840830
			US 1985-771128	19850830
			US 1986-913557	19860929

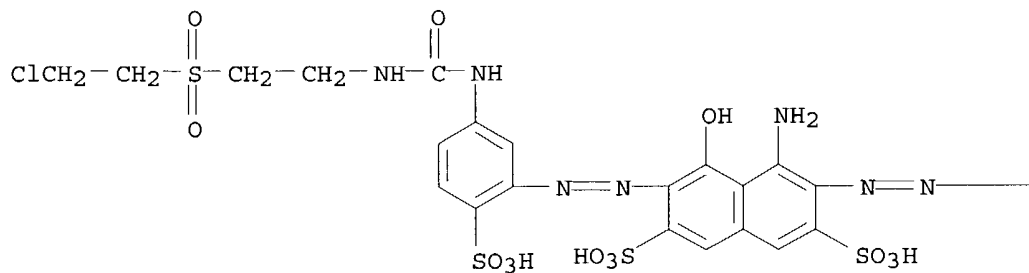
AB Reactive dyes D[NRCON(B)ASO₂Y]_n [I; A = (un)substituted C₂₋₆ alkylene, oxydialkylene; B = H, (un)substituted hydrocarbyl; D = dye residue; n = 1, 2; R = H, (un)substituted C₁₋₄ alkyl; Y = vinyl or precursor] are useful for dyeing or printing of cellulosic fabrics. Thus, 2-aminoethyl 2-chloroethyl sulfone hydrochloride was treated with COCl₂, forming the corresponding isocyanate, which was condensed with 8-amino-1-hydroxy-3,6-naphthalenedisulfonic acid forming I [A = (CH₂)₂, B = R = H, D = 8,3,6,1-HO(HO₃S)₂C₁₀H₄, n = 1, Y = (CH₂)₂Cl]. This compound was coupled with diazotized 2-amino-1,5-naphthalenedisulfonic acid and the product treated with NaOH solution at pH 9-10 for 30 min forming I [A = (CH₂)₂, B = R = H, D = 8,3,6,7,1-HO(HO₃S)₂[5,1,2-(HO₃S)₂C₁₀H₅N:N]C₁₀H₄, Y = CH:CH₂], a red powder suitable for cold-dyeing fabrics.

IT **105175-46-0P**
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)
(manufacture of, as reactive dye for cotton)

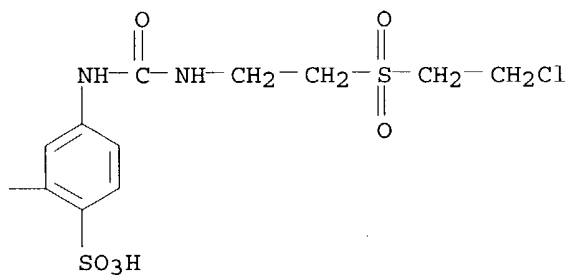
RN 105175-46-0 CAPLUS

CN 2,7-Naphthalenedisulfonic acid, 4-amino-3,6-bis[[5-[[[2-[(2-chloroethyl)sulfonyl]ethyl]amino]carbonyl]amino]-2-sulphophenyl]azo]-5-hydroxy- (9CI) (CA INDEX NAME)

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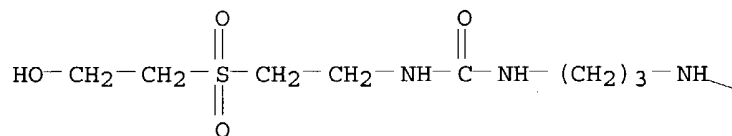
IT 105175-54-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and sulfation of)

RN 105175-54-0 CAPLUS

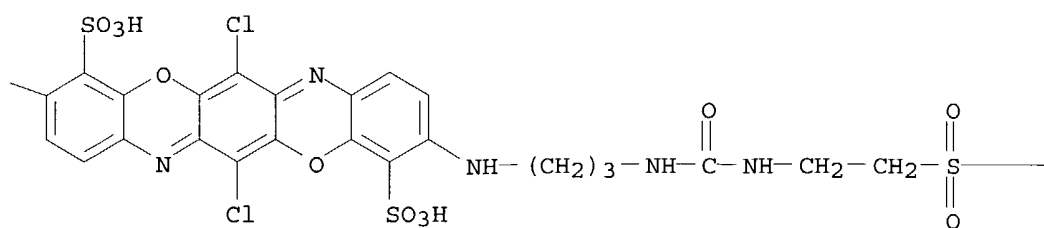
CN 4,11-Triphenyldioxazinedisulfonic acid, 6,13-dichloro-3,10-bis[[3-[[[2-[(2-hydroxyethyl)sulfonyl]ethyl]amino]carbonyl]amino]propyl]amino]-, dipotassium salt (9CI) (CA INDEX NAME)

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● 2 K

PAGE 1-B



— CH₂—CH₂—OH

L27 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1979:515315 CAPLUS

DOCUMENT NUMBER: 91:115315

TITLE: Photographic hardening agents

INVENTOR(S): Nakatani, Mamoru; Kanayama, Setsuji; Tosa, Nobuji;
Horii, Matsuichi

PATENT ASSIGNEE(S): Mitsubishi Paper Mills, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54030022	A2	19790306	JP 1977-95742	19770810
JP 56038945	B4	19810909		

PRIORITY APPLN. INFO.: JP 1977-95742 19770810

AB Photog. gelatins are hardened by using a compound of the general formula
(CH₂:CHSO₂CHRCHR₁COZ_m)_nZ₁ (R, R₁ = H, Me; R ≠ R₁; Z = NH, O; m = 0,
1; Z₁ = an aliphatic moiety, an aromatic moiety, a saturated heterocyclic
moiety, or

a N-containing aliphatic moiety; n = 3, 4). Thus,

(CH₂:CHSO₂CH₂CHMeCONH)₂CHCH₂CH

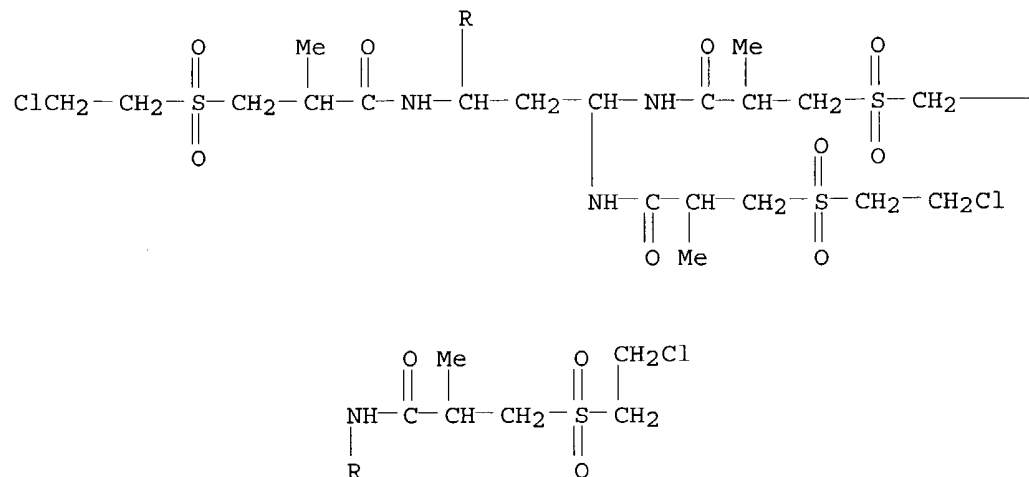
(NHCOCHMeCH₂SO₂CH:CH₂)₂ 1 g/100 g-gelatin was added to an Ag(Br,I)
emulsion, and the emulsion was coated on a polyethylene-laminated paper
support to give a photog. paper. The emulsion layer exhibited excellent
mech. strength.

IT 71092-98-3P 71131-98-1P 71281-12-4P

RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP**
(**Preparation**); RACT (Reactant or reagent)
(preparation and reaction of)

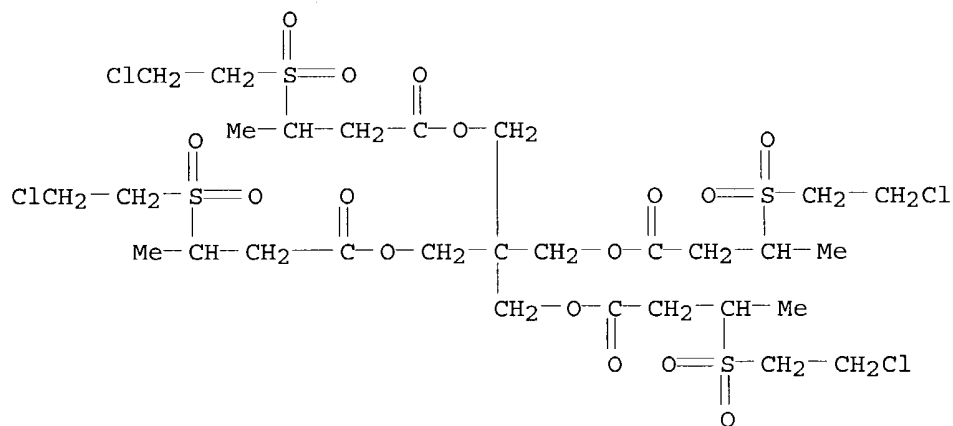
RN 71092-98-3 CAPLUS

CN Propanamide, N,N',N'',N'''-1,3-propanediylidenetetrakis[3-[(2-chloroethyl)sulfonyl]-2-methyl- (9CI) (CA INDEX NAME)


$$-\text{CH}_2\text{Cl}$$

RN 71131-98-1 CAPLUS

CN	Butanoic acid, 3-[(2-chloroethyl)sulfonyl]-, 2,2-bis[[3-[(2-chloroethyl)sulfonyl]-1-oxobutoxy)methyl]-1,3-propanediyl ester (9CI)	(CA)
	INDEX NAME)	

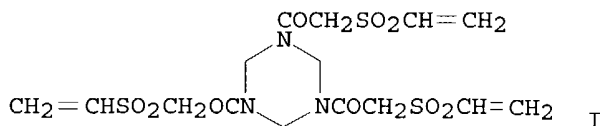


RN 71281-12-4 CAPLUS

CN Butanoic acid, 3-[(2-chloroethyl)sulfonyl]-, 2-[[3-[(2-chloroethyl)sulfonyl]-1-oxobutyl][2-[[3-[(2-chloroethyl)sulfonyl]-1-oxobutyl]amino]ethyl]amino]ethyl ester (9CI) (CA INDEX NAME)

L27 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1978:434134 CAPLUS
DOCUMENT NUMBER: 89:34134
TITLE: Photographic light-sensitive material
INVENTOR(S): Sera, Hidefumi; Ishii, Tsumoru; Yamaguchi, Jun;
Shiraishi, Hisashi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Ger. Offen., 32 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2742308	A1	19780330	DE 1977-2742308	19770920
DE 2742308	C2	19890119		
JP 53041221	A2	19780414	JP 1976-115611	19760927
JP 56048860	B4	19811118		
GB 1545994	A	19790516	GB 1977-38625	19770915
US 4137082	A	19790130	US 1977-837248	19770927
PRIORITY APPLN. INFO.:			JP 1976-115611	19760927
GI				



AB Vinylsulfonyl group-containing compds., such as I, are described for use as photog. hardening agents. The compds. have a rapid hardening rate, show only a small degree of afterhardening, and do not affect the photog. characteristics of photog. emulsions. The compds. are used at 0.1 to .apprx.10 weight % based on the weight of the dry gelatin. Thus, a 7% aqueous solution of gelatin containing 0.05 nmol I/g gelatin was coated on a support to give a

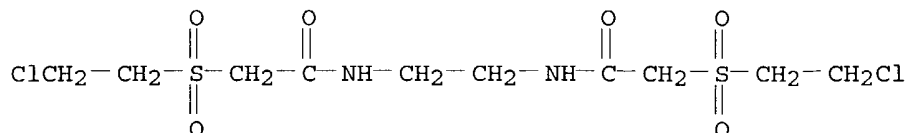
dry thickness of 10 μ and then stored at 25° and 60% relative humidity for 21 days. The material showed a degree of swelling of 5.3 after 1, 3.0 after 7, 2.8 after 14, and 2.9 after 21 days vs. 6.2, 5.0, 4.4, and 3.9, resp., for a control containing (CH₂:CHSO₂(CH₂)₂CONH)₂CH₂.

IT 66710-71-2P 66710-72-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and dehydrohalogenation of)

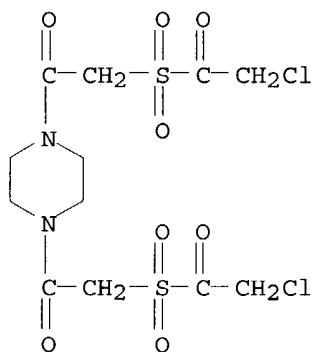
RN 66710-71-2 CAPLUS

CN Acetamide, N,N'-1,2-ethanediybis[2-[(2-chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 66710-72-3 CAPLUS

CN Piperazine, 1,4-bis[[(chloroacetyl)sulfonyl]acetyl]- (9CI) (CA INDEX NAME)



L27 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1976:493811 CAPLUS

DOCUMENT NUMBER: 85:93811

TITLE: Synthesis of bis(2-substituted ethylthiomethyl) ethers

INVENTOR(S): Cleveland, James P.

PATENT ASSIGNEE(S): Eastman Kodak Co., USA

SOURCE: U.S., 3 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3954878	A	19760504	US 1974-517133	19741023
PRIORITY APPLN. INFO.:			US 1974-517133	19741023

AB HOCH₂CH₂SH refluxed with (Cl₃C₆H₂OCH₂)₂O in HOCH₂CH₂OEt containing NaOH gave (HOCH₂CH₂SCH₂)₂O, which was oxidized by H₂O₂ to the disulfone. The disulfone with SOCl₂ gave the dichloride, which was dehydrochlorinated to (CH₂:CHSO₂CH₂)₂O, useful as a hardening agent in photog.

IT 36724-43-3P

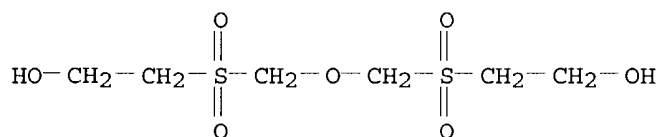
RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(preparation and chlorination of)

RN 36724-43-3 CAPLUS

CN Ethanol, 2,2'-[oxybis(methylenesulfonyl)]bis- (9CI) (CA INDEX NAME)



IT 53061-10-2P

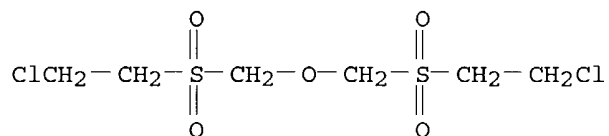
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**

(**Preparation**); RACT (Reactant or reagent)

(preparation and dehydrochlorination of)

RN 53061-10-2 CAPLUS

CN Ethane, 1,1'-[oxybis(methylenesulfonyl)]bis[2-chloro- (9CI) (CA INDEX NAME)



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L28 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:601276 CAPLUS

DOCUMENT NUMBER: 113:201276

TITLE: Silver halide photographic materials containing water-soluble vinyl sulfone hardeners

INVENTOR(S): Nishizeki, Masahito; Tachibana, Noriki; Kagawa, Nobuaki

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02110545	A2	19900423	JP 1988-262821	19881020
PRIORITY APPLN. INFO.:			JP 1988-262821	19881020
AB The title materials comprise supports and ≥1 layer hardened with vinyl sulfones of the formula (CH ₂ :CHSO ₂ CH ₂ CH ₂ CONR) _n Z (I; R = H, C1-4 hydrocarbon residue, CH ₂ :CHSO ₂ CH ₂ CH ₂ CO; Z = a di- to tetravalent OH-substituted organic group; n = 2, 3, 4). Thus, high-speed color neg. films, prepared by addition of the vinyl sulfone I [R = H; Z = CH ₂ CH(OH)CH ₂ ; n = 2] to each component layer, showed excellent antifogging characteristics and high strength.				

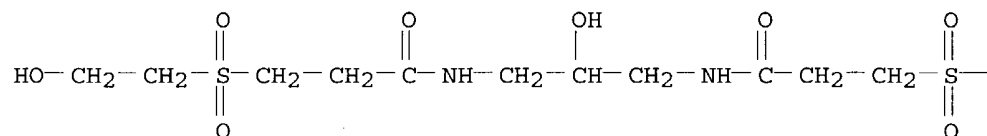
IT 130304-55-1P

RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with thionyl chloride, photog. hardening
 agents from)

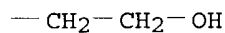
RN 130304-55-1 CAPLUS

CN Propanamide, N,N'-(2-hydroxy-1,3-propanediyl)bis[3-[(2-
 hydroxyethyl)sulfonyl]- (9CI) (CA INDEX NAME)

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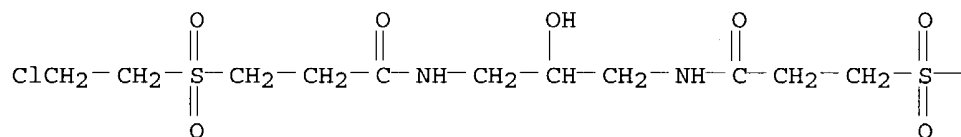
IT 130304-56-2P

RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP**
 (**Preparation**); RACT (Reactant or reagent)
 (preparation and reaction of, with triethylamine, photog. hardening agents
 from)

RN 130304-56-2 CAPLUS

CN Propanamide, N,N'-(2-hydroxy-1,3-propanediyl)bis[3-[(2-
 chloroethyl)sulfonyl]- (9CI) (CA INDEX NAME)

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